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(54) **DOG EXERCISING APPARATUS AND METHOD**

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(51) **Int. Cl.**  
**F41B 3/02** (2006.01)

(52) **U.S. Cl.** ..... **124/20.1**; 119/702

(58) **Field of Classification Search** ..... 124/20.1, 124/20.2, 20.3

See application file for complete search history.

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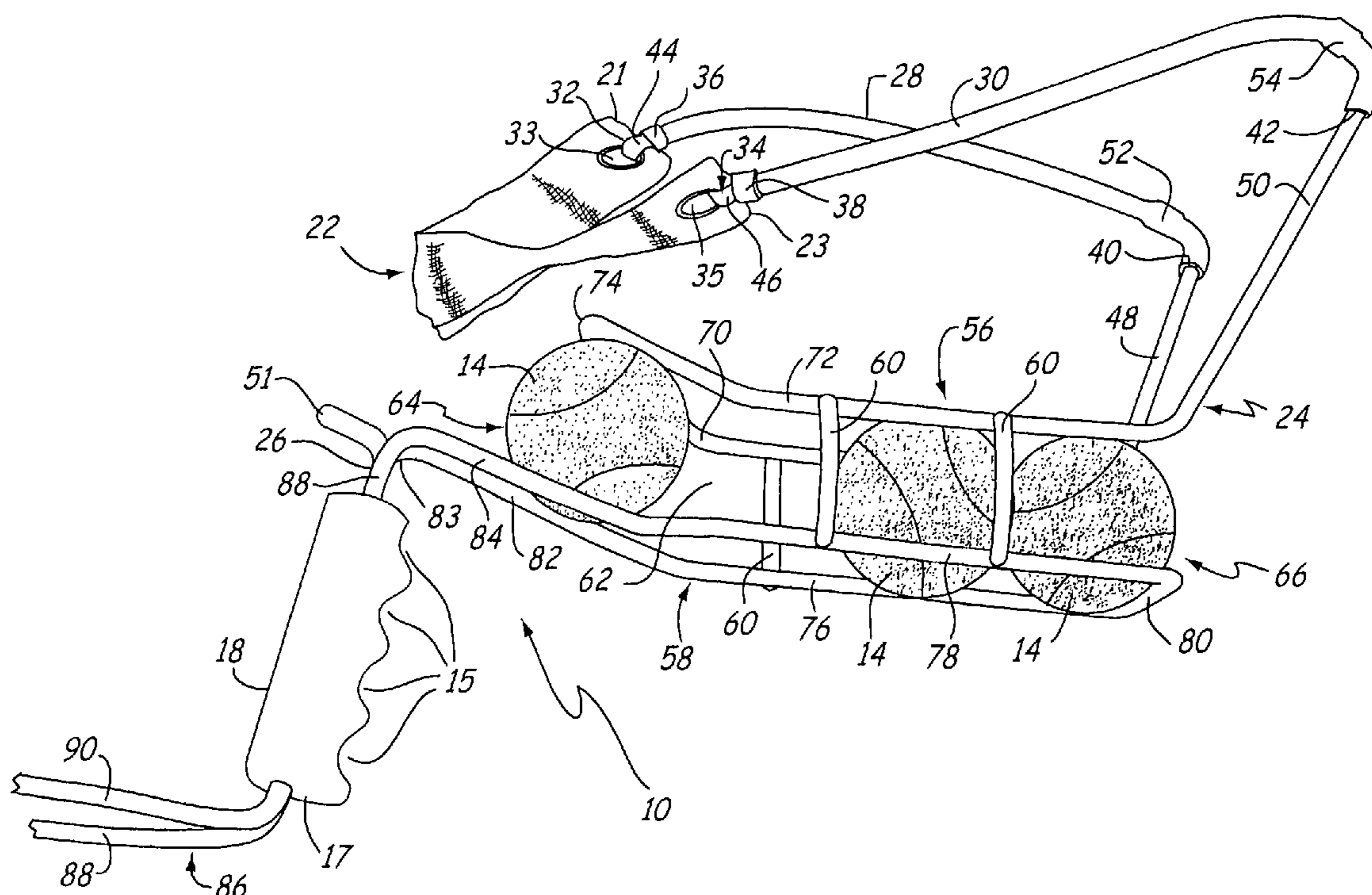
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(57) **ABSTRACT**

An apparatus for exercising a dog with an object includes a frame having a cage for retaining a plurality of objects. The frame also includes at least one prong extending away from the cage. The prong is attached to a pouch with a resilient member. The apparatus also includes a handle attached to the frame and a collapsible forearm brace pivotally attached to a base extending from the handle. The collapsible forearm brace is pivoted proximate the frame when in transport or in storage. The collapsible forearm brace extends from the base and into a rigid engagement therewith when in an operational configuration.

**14 Claims, 4 Drawing Sheets**



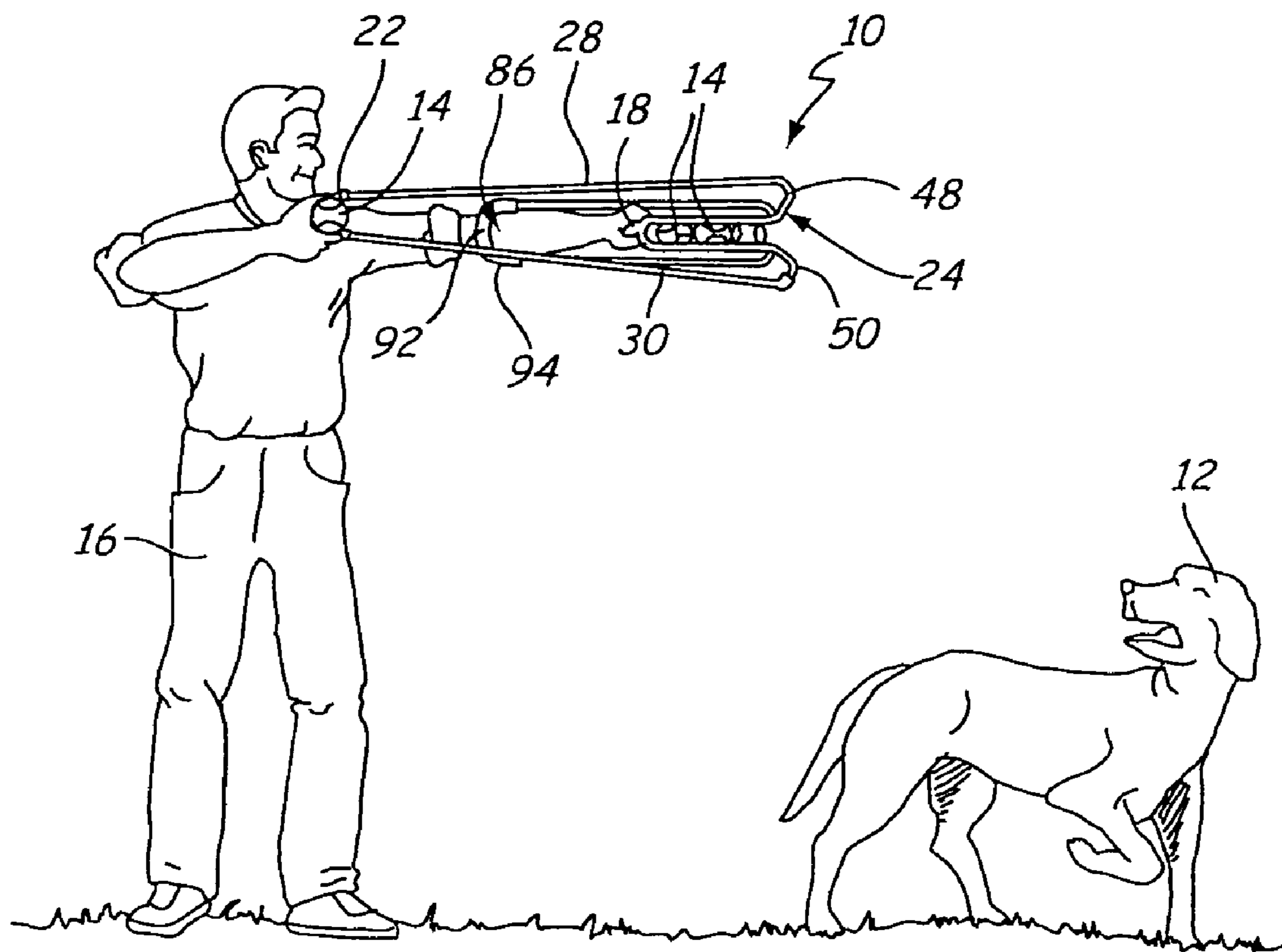


Fig. 1

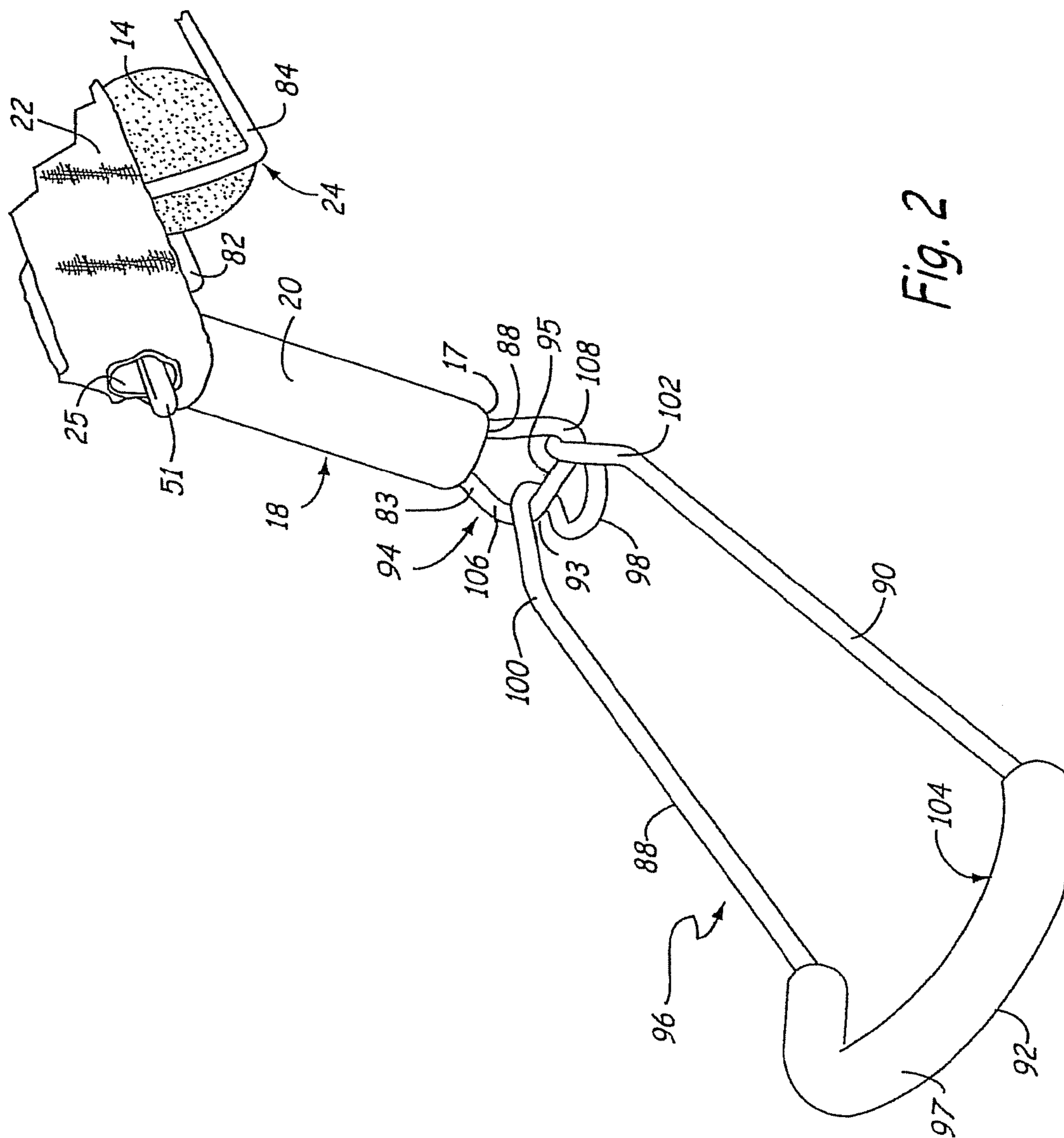


Fig. 2

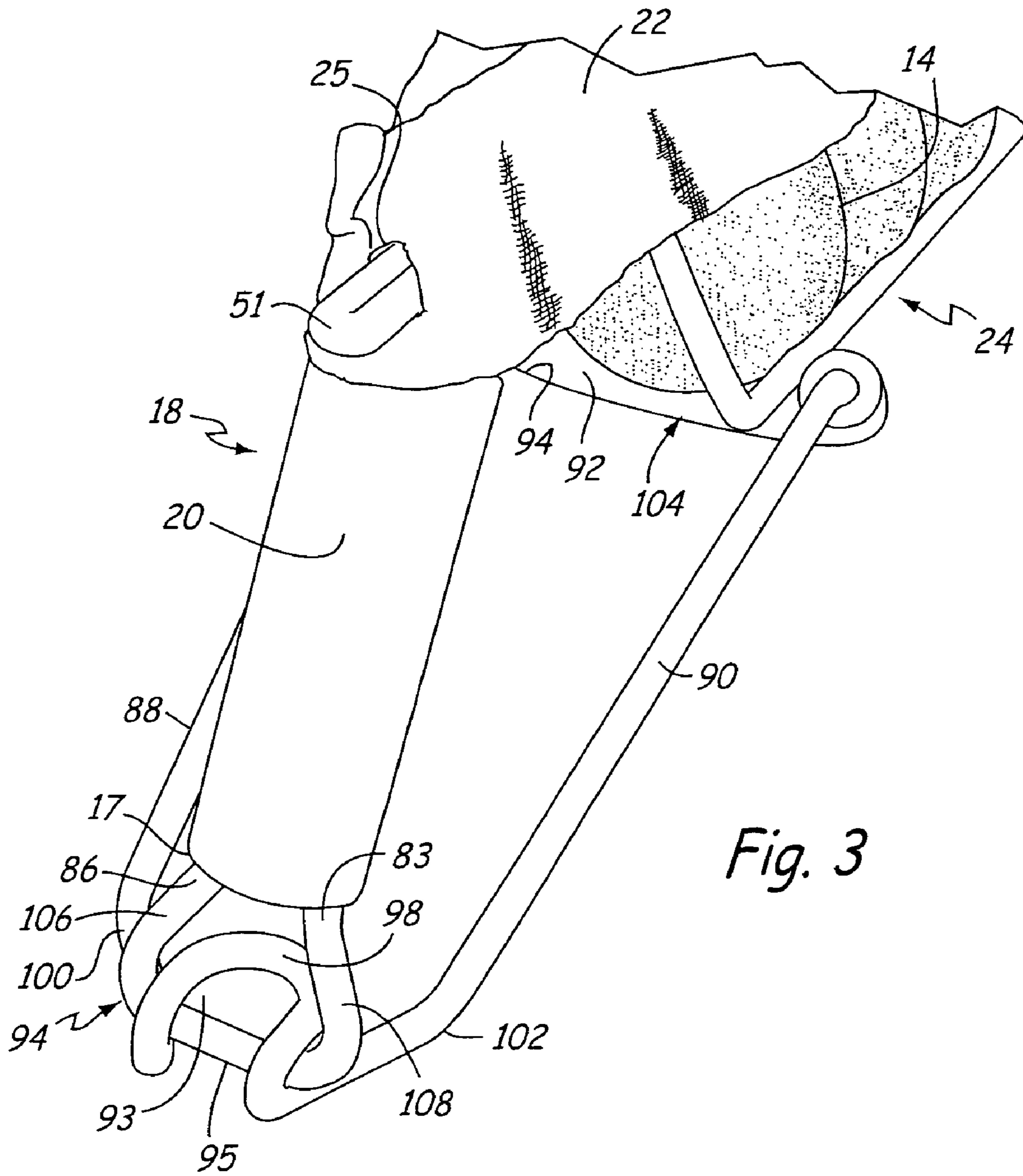


Fig. 3

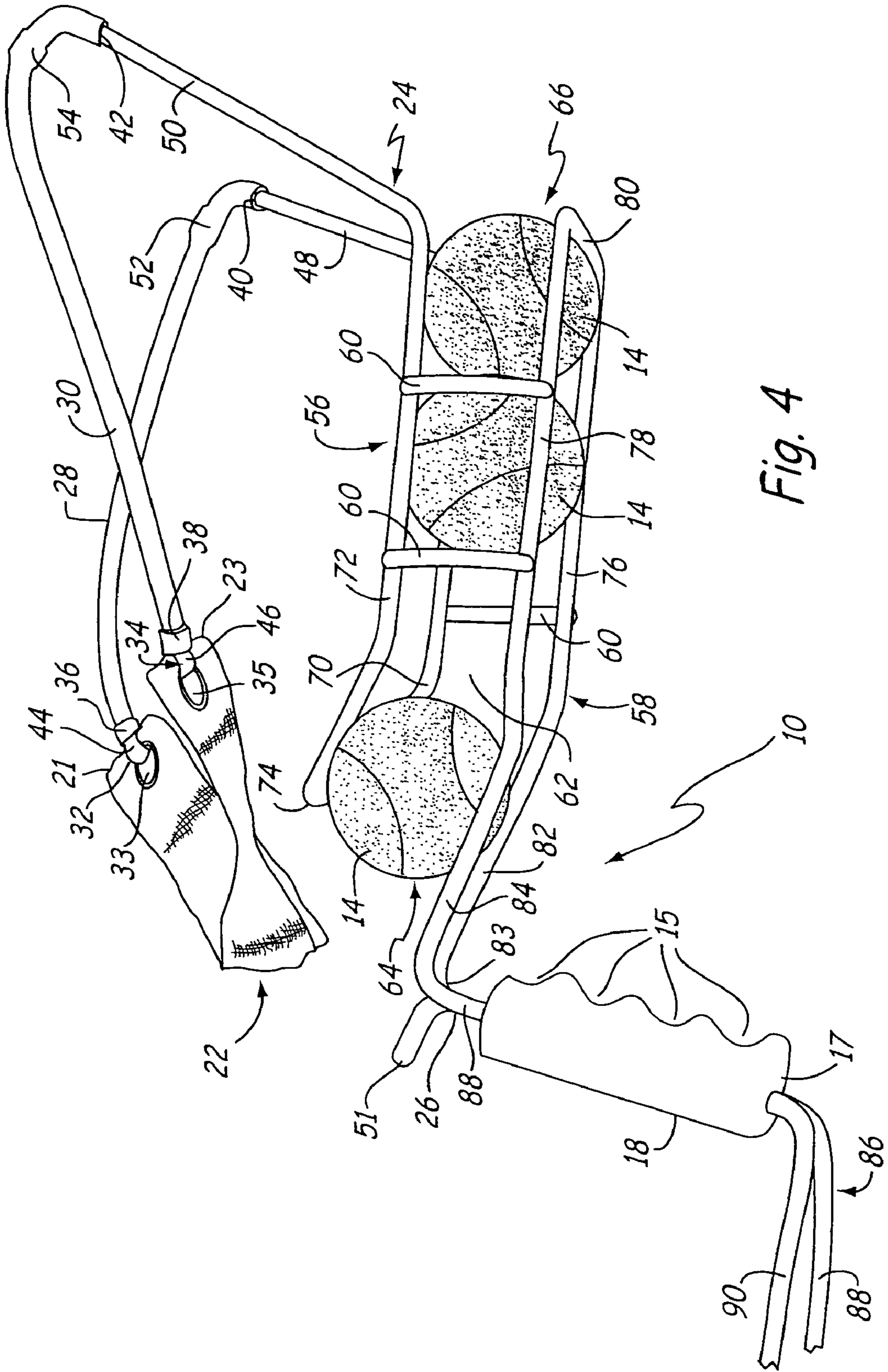


Fig. 4

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**DOG EXERCISING APPARATUS AND METHOD****CROSS REFERENCE TO RELATED APPLICATION(S)**

The present application claims priority from Provisional Application No. 60/562,656, filed on Apr. 15, 2004, which is hereby incorporated by reference in its entirety.

**BACKGROUND OF THE INVENTION**

The present invention relates to an apparatus and method for exercising a dog. More particularly, present invention relates to a hand held apparatus that propels an object for the dog to chase and retrieve.

Typically, an owner will exercise his/her dog by throwing an object, such as a tennis ball, for the dog to chase and retrieve. However, repeating the throwing motion may cause the thrower's arm to become fatigued and/or sore.

Additionally, a distance that the dog has to run to retrieve the ball is limited by the owner's throwing ability. If the owner cannot throw the ball a significant distance, the dog may not get the desired amount of exercise during the exercising time.

To overcome the issues associated with the owner having to throw the ball, some dog owner's have employed slings to propel balls for the dog to chase and retrieve. Slings allow the ball to be propelled a significant distance while not stressing or fatiguing the owner's arm. However, most of the slings are designed to use a single ball because of the inconvenience in carrying multiple balls to a park or a field where the dog is being exercised. Additionally, the ball has a tendency to become wet with dog saliva over time which makes touching or gripping the ball undesirable.

**SUMMARY OF THE INVENTION**

The present invention includes an apparatus for exercising a dog with an object. The apparatus includes a frame having a cage for retaining a plurality of objects. The frame also includes at least one prong extending away from the cage. The prong is attached to a pouch with a resilient member. The apparatus also includes a handle attached to the frame and a collapsible forearm brace pivotally attached to a base extending from the handle. The collapsible forearm brace is pivoted proximate the frame when in transport or in storage. The collapsible forearm brace extends from the base and into a rigid engagement therewith when in an operational configuration.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a perspective view of the dog exercising apparatus of the present invention in use.

FIG. 2 is a partial perspective view of the dog exercising apparatus of the present invention wherein a forearm brace is extended into an operational position.

FIG. 3 is a partial perspective view of the dog exercising apparatus of the present invention wherein the forearm brace is collapsed into a storage and transportation position.

FIG. 4 is a perspective view of the dog exercising apparatus of the present invention.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

An apparatus for exercising a dog is generally illustrated in FIG. 1 at 10. Throughout the Figures like elements will be

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referred to by like reference characters. The apparatus 10 is hand held and is used to propel a tennis ball 14 for a dog 12 or a plurality of dogs to chase and retrieve. The apparatus 10 allows an operator 16 to propel a plurality of tennis balls 14 a selected distance from a location without tiring or injuring the operator's arm caused by the repetitive motion required to repeatedly toss the tennis ball 14 for the dog 12 to chase and retrieve to achieve the desired amount of exercise.

Referring to FIGS. 1 and 4, the operator 16 grips a handle 18 of the apparatus 10 with one hand and positions the tennis ball 14 into a pouch 22 with the other hand. The handle 18 is preferably constructed from a polymeric material that is formed with indentions 15 that are in the form of a "pistol grip" to conform to the fingers of the operator's hand to provide a more secure grip on the handle 18. Referring to FIGS. 2 and 3, the handle 18 may also have a smooth cylindrical outer surface 20 that is gripped by the operator 16.

Referring back to FIGS. 1 and 4, the pouch 22 is connected to a frame 24 with left and right segments of surgical tubing 28, 30. Distal ends 32, 34 of the left and right segments of surgical tubing 28, 30 are fixedly secured to left and right ends 21, 23, respectively, of the pouch 22. Preferably, the distal ends 32, 34 include end loops 36, 38 that are positioned through left and right apertures 33, 35, respectively, in the pouch 22 through which proximal ends 40, 42 of the left and right segments of surgical tubing 28, 30 are inserted to form left and right securing loops 44, 46 about left and right ends 21, 23 of the pouch 22. By securing the pouch 22 to the left and right segments of surgical tubing 28, 30 with the left and right securing loops 44, 46 about the left and right ends 21, 23, all respectively, the connections between the pouch 22 and the left and right segments of surgical tubing 28, 30 are able to withstand a force created by stretching the left and right segments of surgical tubing 28, 30 with manual force placed upon the pouch 22.

Referring to FIGS. 2 and 3, the pouch 22 also includes a slot 25 that is positionable about a tab 51 extending from the proximal end 26 of the frame 24. Positioning the slot 25 of the pouch 22 about the tab 51 retains the pouch 22 in a selected position when the apparatus 10 is being stored or is being transported.

Referring back to FIGS. 1 and 4, the proximal ends 40, 42 of the left and right segments of surgical tubing 28, 30, respectively, are fixedly secured to left and right prongs 48, 50, respectively, of the frame 24. Preferably, the left and right segments of surgical tubing 28, 30 are constructed from commercially available surgical tubing having a bore (not shown) defined by a generally circular wall. The proximal ends 40, 42 are fixedly secured by either enlarging the bores (not shown) in the left and right segments of surgical tubing 28, 30 such that the proximal ends 40, 42 are disposed about portions of the left and right prongs 48, 50, respectively, or manually pulling the left and right segments of surgical tubing 28, 30 onto the left and right prongs 48, 50, respectively. With the proximal ends 40, 42 positioned a selected distance onto the left and right prongs 48, 50, respectively, the bore (not shown) contracts and creates a frictional engagement between the wall of the left and right segments of surgical tubing 28, 30 and the left and right prongs 48, 50, respectively. Although surgical tubing is the preferred material for connecting the pouch 22 to the frame 24, other stretchable, resilient materials are also within the scope of the present invention, including but not limited to, a rubber band, an elastic band and a compression spring.

The left and right prongs 48, 50 are preferably circular in cross-section, although other cross-sectional configurations are within the scope of the present invention. The left and

right prongs **48, 50** include raised segments **52, 54**, respectively, that engage the walls of the left and right segment of surgical tubing **28, 30** to create a stronger frictional engagement between the left and right segments of surgical tubing **28, 30** and the left and right prongs **48, 50**, respectively. The raised segments **52, 54** prevent the left and right segments of surgical tubing **28, 30** from accidentally slipping off of the left and right prongs **48, 50**, all respectively. The raised segments **52, 54** are preferably circular in cross-section, having a larger diameter than the diameter of the prongs **48, 50**, although other cross-sectional configurations are within the scope of the present invention.

The frame **24** includes an upper portion **56** and a lower portion **58** that are separated by connecting rods **60**. The upper portion **56**, the lower portion **58** and the connection rods **60** define a cage **62** that accepts a plurality of tennis balls **14**. While the tennis balls **14** freely move between a proximal end **64** and a distal end **66** of the cage **62**, the proximal end **64** and the distal end **66** are constricted to prevent the tennis balls **14** from accidentally rolling out of the cage **62**. While the proximal end **64** and the distal end **66** of the cage **62** are sufficiently constricted to prevent the tennis balls **14** from accidentally rolling out of the cage **62**, the tennis balls **14** are positioned into and are removed from the cage **62** through either the proximal end **64** or the distal end **66** with manual force.

Preferably, the tennis balls **14** are positioned into the cage **62** through the constricted distal end **66** with either manual force or forcing the distal end toward the ground to collect the tennis ball. The tennis balls **14** are preferably removed from the cage **62** through the constricted proximal end **64**. Being able to remove the tennis balls **14** through the constricted proximal end **66** of the cage **62** provides a more fluid motion of grabbing the tennis ball **14**, positioning the tennis ball **14** in the pouch **22**, gripping the tennis ball **14** through the pouch **22** and stretching the left and right segments of surgical tubing **28, 30** to propel the tennis ball **14**. One skilled in the art will recognize that being able to position the tennis balls **14** into the cage **62** through the distal end **64** by forcing the distal end **64** towards the ball **14** and being able to remove the tennis ball **14** through the proximal end **66** with the pouch **22** allows the user to exercise the dog without having to physically touch the saliva covered tennis balls **14**.

The upper portion **56** of the frame **24** is preferably constructed of a single length of a steel tube or a solid rod, preferably between  $\frac{1}{8}$  inch and  $\frac{1}{4}$  inch in diameter. The upper portion **56** is generally U-shaped having generally parallel left and right sides **70, 72** that are separated by an arcuate portion **74**. The arcuate portion **74** extends slightly upward from the generally parallel sides **70, 72** to provide the selected constriction of the proximal end **64** of the cage **62**. The left and right prongs **48, 50** extend from the left and right sides **70, 72** respectively, to form a slightly obtuse angle, although any angle is within the scope of the present invention.

The lower portion **58** is also preferably constructed of a single length of a steel tube or steel rod, preferably between  $\frac{1}{8}$  inch and  $\frac{1}{4}$  inch in diameter. The lower portion **58** includes left and right side portions **76, 78** that are generally parallel to each other and separated by a distal end portion **80** which is preferably substantially perpendicular to the left and right side portions **76, 78**. Left and right proximal end portions **82, 84** extend from the left and right side portions **76, 78**, respectively, and are bent slightly upward. The left and right proximal end portions **82, 84** taper toward each other to generally form a V shape where the narrowest distance between the left and right proximal end portions **82, 84** is proximate the handle **18**. The left and right proximal end portions **82, 84**

proximate the handle **18** bend substantially perpendicularly wherein the handle **18** is secured about left and right generally vertical portions **83, 85** during the molding process.

The connecting rods **60** are also preferably constructed of a steel tubing or a steel rod, preferably between  $\frac{1}{8}$  inch and  $\frac{1}{4}$  inch in diameter and made of the same material as the upper portion **56** and the lower portion **58** of the frame **24**. The connecting rods **60** are preferably welded to both the upper portion **56** and the lower portion **58** such that the connecting rods **60** do not cause a mechanical failure of the frame **24** during use.

One skilled in the art will recognize that the frame can be constructed of any material that provides structural strength and integrity to withstand the forces generated during use of the apparatus **10** over time. A failure of the frame **24** could result in an injury to the operator **16**, therefore the material of construction of the frame **24** must be carefully considered to prevent the likelihood of injury.

The apparatus **10** preferably includes a forearm brace **86** extending from a bottom end **17** of the handle **18**. The forearm brace **86** includes left and right side portions **88, 90** that are extensions from the left and right generally vertical portions **83, 85**, respectively, and gradually spread apart. The left and right side portions **88, 90** of the forearm brace **86** are retained apart with an arcuate portion **92** that generally conforms to the profile of a forearm of the user as best illustrated in FIG. **1**. Preferably, a padded or foam material **94** is secured about the arcuate portion **92** to reduce pressure on the forearm when the apparatus **10** is in use. When the apparatus **10** is in use, the forearm brace **86** provides stability to the user and relieves stresses and strain placed upon the operator's grip in the form of a torque when the left and right segments of surgical tubing **28, 30** are stretched and then released to propel the tennis ball **14**.

The forearm brace **86** may be constructed of a single piece of material as illustrated in FIGS. **1** and **4**, preferably from steel tubing or a solid rod between  $\frac{1}{8}$  inch and  $\frac{1}{4}$  inch in diameter and made of the same material as the frame **24**. However, the length of the apparatus **10** from the arcuate portion **92** of the forearm brace **86** to the left and right prongs **48, 50** may make the apparatus **10** difficult to store and transport to and from a place where the dog can exercise.

Alternatively, referring to FIGS. **2** and **3**, the forearm brace **86** may be collapsible and when collapsed, reduces the length of the apparatus **10**, making the apparatus **10** more easily stored and transported. The collapsible forearm brace **86** is constructed of a base **94** that is an extension of the left and right generally vertical portions **83, 85** that extend from the handle **18** and forms a generally triangular shaped loop **95** having a generally flat bottom portion **95** and generally slanted left and right side portions **106** and **108**. A movable bracing portion **96** is pivotally secured to the base **94** to allow the forearm brace **86** to be extended when in use as illustrated in FIG. **2** and pivoted toward the frame **24** when being stored or transported as illustrated in FIG. **3**.

The movable bracing portion **96** pivotally engages the base **94** by positioning a channel **93** proximate a proximal end **98** about the loop **95**. The channel **93** is defined by the rounded proximal end **98** bent toward the arcuate portion **92** at the distal end of the movable bracing portion **96**. The proximal end **98** is connected to the arcuate portion **92** with left and right side portions **88, 90** such that the collapsible forearm brace **86** has the same general configuration as the rigid forearm brace as illustrated in FIGS. **1** and **4**.

In the operating position, the movable bracing portion is rigidly positioned relative to the base **94** by an engagement of the tapered left and right side portions **88, 90** proximate the

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proximal end 98 with upper leg portions 106, 108 of the generally triangularly shaped loop 95 of the base 94. Other engagements of the movable bracing portion 96 and the base 92 are also within the scope of the present invention provided that the movable bracing portion 96 is rigidly secured in the operating position when manual force is applied to the pouch 22 and the tennis ball 14.

A distance between the left and right side portions 88, 90 rapidly increases to points 100, 102 on the left and right side portions 88, 90, respectively. From points 100, 102 the distance between the left and right side portions 88, 90 increases at a more gradual rate to a distal end 104 where the arcuate portion 92, that is preferably covered with the padded material 97, retains the left and right side portions 88, 90 in the selected relationship with respect to each other.

In operation, the operator 16 pivots the movable bracing portion 96 from a collapsed position as illustrated in FIG. 3 to a rigid operating position as illustrated in FIG. 2. The movable bracing portion 96 is retained in the rigid operation position by the engagement of the tapered left and right side portions 88, 90 proximate the proximal end 98 with the upper leg portions 106, 108 of the generally triangularly shaped loop 95 of the base 94. The operator 16 positions one of his/her hands below the arcuate portion 92, between the left and right side portions 88, 90 and grips the handle 18. The operator 16 then extends his/her arm such that the arm is straight with the elbow locked as illustrated in FIG. 1.

The operator 16 retrieves a tennis ball 14, preferably from the proximal end 64 of the cage 62, and places the tennis ball 14 in the pouch 22 with his/her other hand. The operator 16 grips the tennis ball 14 through the pouch 22 and applies manual force to the pouch 22 and the tennis ball 14 by pulling the pouch 22 and the tennis ball 14 toward himself/herself while the other arm is extended and straight.

Manual force causes the left and right segments of surgical tubing 28, 30 to stretch. As the left and right segments of surgical tubing 28, 30 stretch, torque is placed upon the hand of the operator 16 gripping the handle 18 that is transferred to the operator's forearm by the forearm brace 86 in a vector generally perpendicular to a length of the forearm. The forearm is better able of withstanding the torque as a force that is exerted by the arcuate portion 92 onto the forearm than the operator's hand, which may fatigue over time. The padded material 94 about the arcuate portion 92 relieves some pressure that is exerted upon the forearm while the left and right segments of surgical tubing 28, 30 are stretched.

When the left and right segments of surgical tubing 28, 30 are stretched to a selected length, the operator 16 releases his/her grip on the pouch 22 and the tennis ball 14 such that the left and right segments of surgical tubing 28, 30 contract to a non-tension length. As the left and right segments of surgical tubing 28, 30 contract, the pouch 22 and the tennis ball 14 are rapidly propelled away from the operator 16. The left and right prongs 48, 50 stop the movement of the pouch 22 and the left and right segments of surgical tubing 28, 30 from being propelled from the apparatus 10. However, the tennis ball 14 continues to be propelled from the apparatus 10 a distance proportional to the length that the left and right segments 28, 30 were stretched. With the tennis ball 14 propelled from the apparatus 10, the dog 12 or many dogs get exercise by chasing and retrieving the tennis ball 14.

The left and right prongs 48, 50 and the proximal ends 82, 84 of the left and right sides 76, 78, respectively, of the bottom portion 58 of the frame 24 are designed to aid the frame 24 in withstanding the force created while the left and right segments of surgical tubing 28, 30 are being stretched. The left and right prongs 48, 50 extend away from the frame 24 and

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have spring qualities that allow the left and right prongs 48, 50 to flex in the direction of the manual force and thereby relieve stress upon the frame 24 generated by the manual force. The proximal ends 82, 84 of the left and right sides 76, 78, respectively, of the bottom portion 58 of the frame 24 are bent upward and resist the torque generated from the force applied to the prongs 48, 50 upon the frame 24 proximate the handle.

Because the cage 62 retains several tennis balls 14 between the constricted proximal and distal ends 64, 66, manual force can be applied to the tennis balls 14 to remove the tennis balls 14 from either the proximal end 64 or the distal end 66 of the cage 62. Employing the same procedure, another tennis ball 14 can be quickly propelled in a desired direction at a desired trajectory thereby allowing a single operator 16 to exercise the same dog 12 or many dogs at the same time.

Because the motion used to stretch the left and right segments of surgical tubing 28, 30 is relatively easy, the operator 16 will tire less quickly than if the operator 16 had to manually throw the tennis balls 14. Additionally, the apparatus 10 allows the operator 16 to consistently propel the tennis balls 14 farther than if the operator 16 had to throw the tennis balls.

Once the dog 12 or dogs have been sufficiently exercised the tennis balls 14 are manually forced into the cage 62 for storage through either the proximal end 64 or the distal end 66 of the cage 62. The operator 16 releases his/her grip on the handle 18 and removes his/her hand from the forearm brace 86. The operator collapses the movable brace portion 96 toward the frame 24 and optionally positions the slot 25 about the tab 51 to retain the pouch 22 in the selected position for transport and storage.

Although the present invention has been described with reference to preferred embodiments, workers skilled in the art will recognize that changes may be made in form and detail without departing from the spirit and scope of the invention.

What is claimed is:

1. An apparatus for exercising a dog with an object, the apparatus comprising:

a frame comprising:

a cage for retaining a plurality of objects; and

at least one prong extending away from the cage;

a pouch for gripping the object;

at least one resilient member attaching the pouch to the prong;

a handle attached to the frame;

a base extending from the frame, the base comprising a generally triangular shaped configuration having a generally flat bottom portion and generally slanted left and right side portions; and

a collapsible forearm brace comprising a channel proximate a proximal end wherein the channel is positioned about a generally flat bottom by the base such that the forearm brace is pivots there about wherein the forearm brace is pivoted proximate the frame when in transport or in storage and wherein the collapsible forearm brace extends from the base in a rigid engagement therewith when the apparatus is in use and wherein an upper portion of the channel engages the generally slanted left and right side portions to create the rigid engagement; and

wherein the cage comprises a proximal end wherein the proximal end constricts such that manual force upon the object positions the object within the cage or removes the object from the cage depending upon the direction of the force.

2. The apparatus of claim 1 and wherein the frame further comprises left and right prongs attached to the cage.



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3. The apparatus of claim 2 and further comprising:  
a left resilient member attached to the left prong and a left  
end of the pouch; and  
a right resilient member attached to the right prong and a  
right end of the pouch. 5
4. The apparatus of claim 3 and wherein the left and right  
resilient members comprise surgical tubing.
5. The apparatus of claim 1 and wherein the base comprises  
a portion of the frame.
6. A method of exercising a dog with an object without 10  
physically touching an object that becomes wet with dog  
saliva over time, the method comprising:  
gripping a handle of an apparatus comprising:  
a cage extending from the handle and wherein the cage  
retains a plurality of objects, the cage having a con- 15  
stricted proximal end and a constricted distal end;  
left and right prongs extending from the distal end of the  
cage;  
a pouch for gripping the object; and  
left and right resilient members attaching the pouch to 20  
the left and right prongs;  
positioning the pouch about an object proximal the proxi-  
mate end of the cage;  
applying manual force to the object through the pouch to  
remove the object from the proximal end of the cage; 25  
stretching the left and right resilient members with manual  
force by applying manual force to the object while grip-  
ping the object through the pouch;  
releasing the manual force from the object by releasing the  
grip on the pouch such that the resilient members propel 30  
the object for the dog to chase and retrieve;  
positioning the distal end of the cage proximate the  
retrieved object positioned on the ground; and  
applying manual force to the apparatus such that the object 35  
is positioned into the cage through the distal end without  
having to physically touch the object.
7. The method of claim 6 and further comprising extending  
a collapsible forearm brace into a rigid position prior to grip-  
ping the handle.
8. The method of claim 7 and further comprising position- 40  
ing the users hand through the extended forearm brace prior to  
gripping the handle.
9. The method of claim 6 and further comprising repeating  
the method of exercising a dog until the dog is sufficiently  
exercised without having to physically touch the object used 45  
to exercise the dog.
10. An apparatus for exercising a dog with an object, the  
apparatus comprising:  
a frame comprising:  
a cage for retaining a plurality of objects; and 50  
at least one prong extending away from the cage;  
a pouch for gripping the object;  
at least one resilient member attaching the pouch to the  
prong;  
a handle attached to the frame;

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- a base extending from the frame, the base comprising a  
generally triangular shaped configuration having a gen-  
erally flat bottom portion and generally slanted left and  
right side portions; and  
a collapsible forearm brace comprising a channel proxi-  
mate a proximal end wherein the channel is positioned  
about the generally flat bottom portion of the base such  
that the forearm brace is pivots there about wherein the  
forearm brace is pivoted proximate the frame when in  
transport or in storage and wherein the collapsible fore-  
arm brace extends from the base in a rigid engagement  
therewith when the apparatus is in use and wherein an  
upper portion of the channel engages the generally  
slanted left and right side portions to create the rigid  
engagement; and  
wherein the cage comprises a distal end wherein the distal  
end constricts such that manual force upon the object  
positions the object within the cage or removes the  
object from the cage depending upon the direction of the  
force.
11. The apparatus of claim 10 and wherein the frame fur-  
ther comprises left and right prongs attached to the cage.
12. The apparatus of claim 11 and further comprising:  
a left resilient member attached to the left prong and a left  
end of the pouch; and  
a right resilient member attached to the right prong and a  
right end of the pouch.
13. The apparatus of claim 12 and wherein the left and right  
resilient members comprise surgical tubing.
14. An apparatus for exercising a dog with an object, the  
apparatus comprising:  
a frame comprising:  
a cage for retaining a plurality of objects; and  
at least one prong extending away from the cage;  
a pouch for gripping the object;  
at least one resilient member attaching the pouch to the  
prong;  
a handle attached to the frame;  
a base; and  
a collapsible forearm brace comprising a channel proxi-  
mate a proximal end wherein the channel is positioned  
about the generally flat bottom portion of the base such  
that the forearm brace is pivots there about wherein the  
forearm brace is pivoted proximate the frame when in  
transport or in storage and wherein the collapsible fore-  
arm brace extends from the base in a rigid engagement  
therewith when the apparatus is in use and wherein an  
upper portion of the channel engages the generally  
slanted left and right side portions to create the rigid  
engagement; and  
wherein the base comprises a generally triangular shaped  
configuration having a generally flat bottom portion and  
generally slanted left and right side portions.

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